

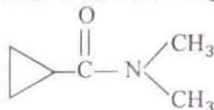
51. Calcium carbide reacts with H_2O to produce :

- | | |
|--------------|---------------|
| (a) ethane | (b) methane |
| (c) ethylene | (d) acetylene |

52. RNA differ from DNA in respect of base :

- | | |
|--------------|-------------|
| (a) thiamine | (b) adenine |
| (c) cytosine | (d) guanine |

53. The oxidation number of nitrogen in NaNO_2 is :
 (a) +3 (b) +5
 (c) -3 (d) -5
54. Bauxite is an ore of :
 (a) Al (b) Ca
 (c) Cu (d) Ni
55. The best source of vitamin A is :
 (a) beans (b) pulses
 (c) orange (d) carrot
56. Plaster of paris is :
 (a) $\text{CaSO}_4 \cdot \frac{1}{2} \text{H}_2\text{O}$ (b) $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$
 (c) $\text{CaSO}_4 \cdot \text{H}_2\text{O}$ (d) $\text{CaSO}_4 \cdot 4\text{H}_2\text{O}$
57. Penicillin is :
 (a) analgesic (b) antipyretic
 (c) antimalarials (d) antibiotic
58. The most stable compound is :
 (a) LiF (b) LiCl
 (c) LiBr (d) LiI
59. Heavy water is :
 (a) CaSO_4
 (b) water contain CaSO_4 , MgSO_4
 (c) D_2O
 (d) water contain CaCO_3
60. When copper reacts with hot and conc. H_2SO_4 , gives :
 (a) H_2 (b) N_2
 (c) O_2 (d) SO_2
61. BaO_2 and ozone reacts to produce :
 (a) Ba (b) Ba_2O_3
 (c) BaO (d) $\text{Ba}(\text{OH})_3$
62. Heisenberg uncertainty principle can be explained as :
 (a) $\Delta x \geq \frac{\Delta P \times h}{4\pi}$ (b) $\Delta x \times \Delta P \geq \frac{h}{4\pi}$
 (c) $\Delta x \times \Delta P \geq \frac{h}{\pi}$ (d) $\Delta P \geq \frac{\pi h}{\Delta x}$
63. A gas mixture contains O_2 and N_2 in the ratio of 1 : 4 by weight. The ratio of their number of molecules is :
 (a) 1 : 8 (b) 1 : 4
 (c) 3 : 16 (d) 7 : 32
64. Bleaching powder is obtained by treating Cl_2 with :
 (a) $\text{Ca}(\text{OH})_2$ (b) CaO
 (c) CaCO_3 (d) CaCl_2
65. Magnalium contains :
 (a) Mg + Al (b) Mg + Cu
 (c) Mg + Fe (d) Mg + Mn
66. The de-Broglie wavelength of a particle with mass 1 kg and velocity 100 m/s is :
 (a) 6.6×10^{-33} m (b) 6.6×10^{-36} m
 (c) 3.3×10^{-33} m (d) 3.3×10^{-36} m
67. The volume of a gas measured at 27°C and 1 atm pressure is 10 L. To reduce the volume to 2 L at 1 atm. pressure, the temperature required is :
 (a) 60 K (b) 75 K
 (c) 150 K (d) 225 K
68. Isotonic solutions have :
 (a) same vapour pressure
 (b) same osmotic pressure
 (c) same boiling point
 (d) same temperature
69. Epsom salt is :
 (a) $\text{BaSO}_4 \cdot 2\text{H}_2\text{O}$ (b) $\text{CaSO}_4 \cdot \text{H}_2\text{O}$
 (c) $\text{MgSO}_4 \cdot 2\text{H}_2\text{O}$ (d) $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$
70. Paracetamol is an :
 (a) analgesic
 (b) antipyretic
 (c) both (a) and (b)
 (d) none of the above
71. The number of moles of oxygen obtained by the electrolytic decomposition of 108 g water is :
 (a) 2.5 (b) 3
 (c) 5 (d) 7.5
72. The change in entropy for the fusion of 1 mole of ice is [mp of ice = 273 K, molar enthalpy of fusion for ice = 6.0 kJ mol^{-1}]
 (a) $11.73 \text{ JK}^{-1} \text{ mol}^{-1}$
 (b) $18.84 \text{ JK}^{-1} \text{ mol}^{-1}$
 (c) $21.97 \text{ JK}^{-1} \text{ mol}^{-1}$
 (d) $24.47 \text{ JK}^{-1} \text{ mol}^{-1}$
73. Which does not give a precipitate with AgNO_3 solution ?
 (a) $[\text{Co}(\text{NH}_3)_6]\text{Cl}_3$ (b) $[\text{Co}(\text{NH}_3)_5\text{Cl}]\text{Cl}_2$
 (c) $[\text{Co}(\text{NH}_3)_4\text{Cl}_2]\text{Cl}$ (d) $[\text{Co}(\text{NH}_3)_3\text{Cl}_3]$
74. Total volume of atoms present in a face centred cubic unit cell of a metal is : (r is atomic radius)
 (a) $\frac{16}{3} \pi r^3$ (b) $\frac{20}{3} \pi r^3$
 (c) $\frac{24}{3} \pi r^3$ (d) $\frac{12}{3} \pi r^3$

75. Pure silicon doped with phosphorus is a :
- metallic conductor
 - insulator
 - n*-type semiconductor
 - p*-type semiconductor
76. Neutron is discovered by :
- Chadwick
 - Rutherford
 - Yukawa
 - Dalton
77. What is *X* in the following nuclear reaction ?
- $${}_7\text{N}^{14} + {}_1\text{H}^1 \longrightarrow {}_8\text{O}^{15} + X$$
- ${}_0n^1$
 - ${}_{-1}e^0$
 - ${}_{+1}e^0$
 - γ
78. Solubility product of PbCl_2 at 298 K is 1×10^{-6} . At this temperature solubility of PbCl_2 in mol/L is :
- $(1 \times 10^{-6})^{1/2}$
 - $(1 \times 10^{-6})^{1/3}$
 - $(0.25 \times 10^{-6})^{1/3}$
 - $(0.25 \times 10^{-6})^{1/2}$
79. The pH of a 0.001 M solution of HCl is :
- 0
 - 3
 - 5
 - 10
80. Gold number is associated with :
- amount of gold
 - protective colloids
 - purple of cassius
 - electrophoresis
81. Noble gases are used in discharge tubes to give different colours. Reddish-orange glow is due to :
- Ar
 - Ne
 - Xe
 - Kr
82. The set representing the correct order for first ionisation potential is :
- $\text{K} > \text{Na} > \text{Li}$
 - $\text{Be} > \text{Mg} > \text{Ca}$
 - $\text{B} > \text{C} > \text{N}$
 - $\text{Ge} > \text{Si} > \text{C}$
83. Dry ice is :
- solid CO_2
 - solid camphor
 - solid SO_2
 - solid NO_2
84. Methanol and ethanol are miscible in water due to :
- covalent character
 - hydrogen bonding character
 - oxygen bonding character
 - none of the above
85. Stereoisomers differ in :
- configuration
 - conformation
 - they do not differ
 - none of the above
86. IUPAC name of the following compound :
- 
- N,N*-dimethylcyclopropanecarboxamide
 - N*-methylcyclopropanamide
 - cyclopropionamide
 - none of the above
87. The product of following reaction is :
- $$2\text{CH}_3\text{MgBr} + \text{CH}_2\text{O} \longrightarrow$$
- CH_3OH
 - $\text{C}_2\text{H}_5\text{OH}$
 - CH_4
 - C_2H_6
88. Freon used as refrigerant is :
- $\text{CF}_2 = \text{CF}_2$
 - CH_2F_2
 - CCl_2F_2
 - CF_4
89. Lucas reagent is :
- anhy. ZnCl_2 and NH_3
 - anhy. ZnCl_2 and CaCl_2
 - anhy. ZnCl_2 and conc. HCl
 - anhy. ZnCl_2 and HCl gas
90. The enzyme which can catalyse the conversion of glucose to ethanol is :
- zymase
 - invertase
 - maltase
 - diastase
91. When dihydroxy acetone reacts with HIO_4 , the product is/are :
- HCHO
 - HCOOH
 - HCHO and HCOOH
 - HCHO and CO_2
92. Which of the following does not reduce Fehling's solution?
- Benzaldehyde
 - Formic acid
 - Glucose
 - Fructose
93. Sodium formate on heating gives :
- oxalic acid and H_2
 - sodium oxalate and H_2
 - sodium oxalate
 - CO_2 and caustic soda
94. Reaction of ethyl formate with excess of CH_3MgI followed by hydrolysis gives :
- n*-propyl alcohol
 - isopropyl alcohol
 - acetaldehyde
 - acetone
95. Hydrolysis of phenyl isocyanide forms :
- benzoic acid
 - formic acid
 - acetic acid
 - none of these

96. Styrene can be purified by :
- simple distillation
 - fractional distillation
 - steam distillation
 - vacuum distillation
97. Which of the following is not reducing sugar ?
- Glucose
 - Fructose
 - Lactose
 - Sucrose
98. The monomer of teflon is :
- $\text{CHF}=\text{CH}_2$
 - $\text{CF}_2=\text{CF}_2$
 - $\text{CHCl}=\text{CHCl}$
 - $\text{CHF}=\text{CHCl}$

99. The hybridisation state of carbon in fullerene is :
- sp
 - sp^2
 - sp^3
 - sp^3d
100. A fruity smell is produced by the reaction of $\text{C}_2\text{H}_5\text{OH}$ with :
- CH_3COCH_3
 - CH_3COOH
 - PCl_5
 - CH_3CHO

Answer Key

51. d	52. a	53. a	54. a	55. d	56. a	57. d	58. a	59. c	60. d
61. c	62. b	63. d	64. a	65. a	66. b	67. a	68. b	69. d	70. c
71. b	72. c	73. d	74. a	75. c	76. a	77. d	78. c	79. b	80. b
81. b	82. b	83. a	84. b	85. a	86. a	87. b	88. c	89. c	90. a
91. d	92. d	93. b	94. c	95. b	96. d	97. d	98. b	99. b	100. b